Microsoft DevOps Solutions: Developing Deployment Scripts and Templates

DEPLOYMENT SOLUTIONS

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Exam Objectives Covered

Deployment solutions

Infrastructure as code

Database deployments

Configuration management

Mobile, DR, multi-region and other complex deployments

Prerequisites

Basic knowledge of popular DevOps concepts

Intermediate to expert in Azure administration or development

Familiarity with Azure Pipelines and GitHub Actions

Familiarity with basic configuration management concepts and tools

Pipelines

Part of Azure DevOps
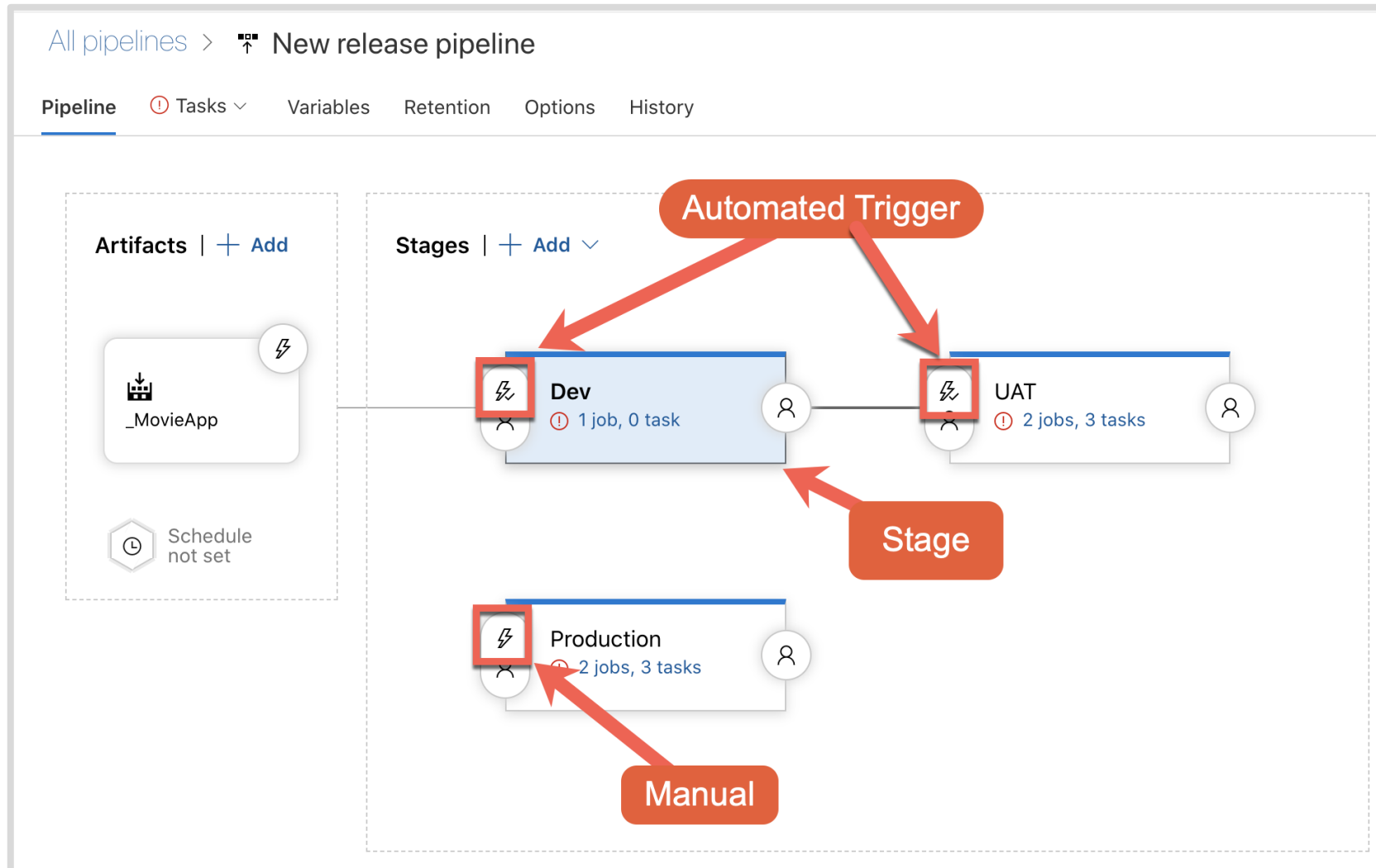
Builds code and deploys to infrastructure

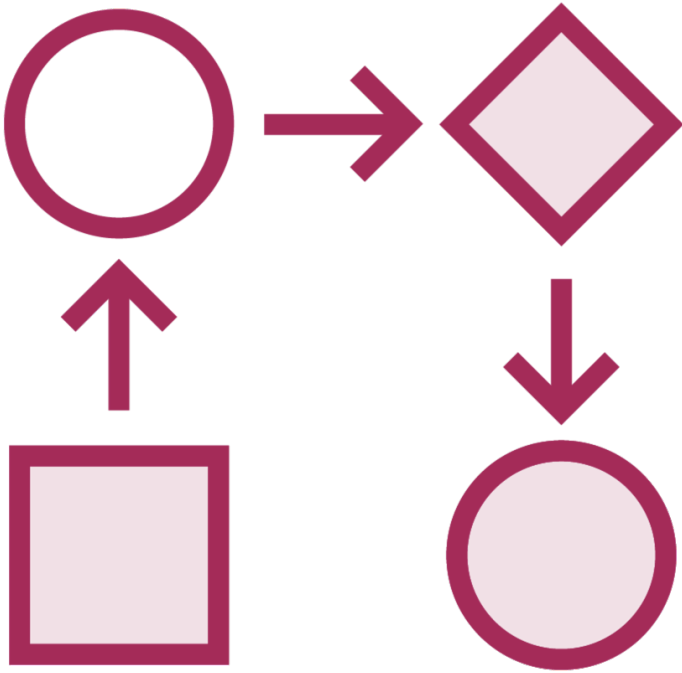Integrates with source control

Azure integration

YAML vs. legacy releases

Release Stages and Triggers
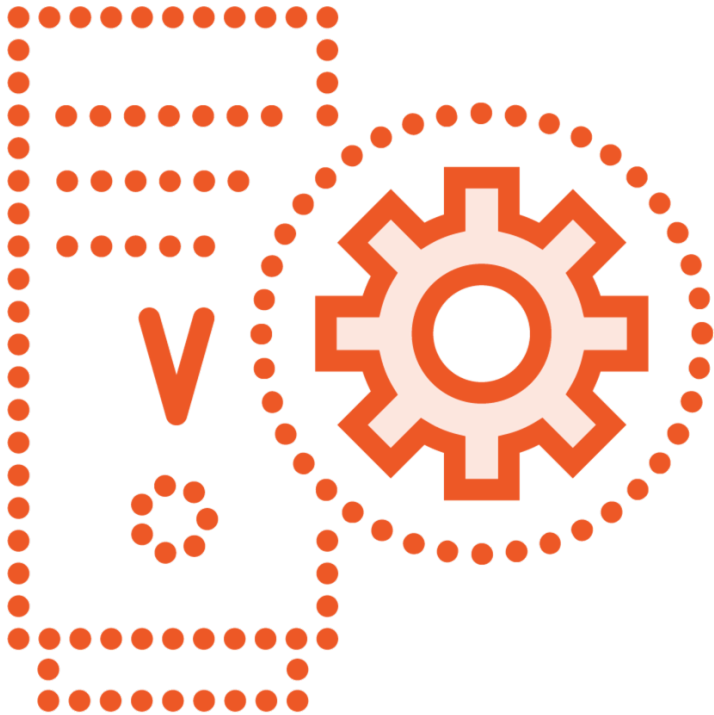
Deployment Gates

Collect health signals to dictate deployments

Automated

Queries external services to make decisions

Agents and Agent Pools

Executes deployment actions

Supports multiple operating systems

Self-hosted vs. Microsoft-hosted

Pools

Deployment Groups

A group of agents like an agent pool

Grouped by "stage"

View log activity

Assign permissions

Workflows

Job triggers from events

Jobs —> Steps —> Actions

YAML-Based

Hosted by Runners

Workflow File Structure

```yaml
name: learn-github-actions

on: [push] ##| event

jobs: ## job grouping
    check-bats-version: ## job (job name)
        runs-on: ubuntu-latest ## runner
        steps:
            - uses: actions/checkout@v2 ## retrieves
v2 of the checkout action
            - uses : actions/setup-node@v1
            - run: npm install -g bats
            - run: bats -v
```
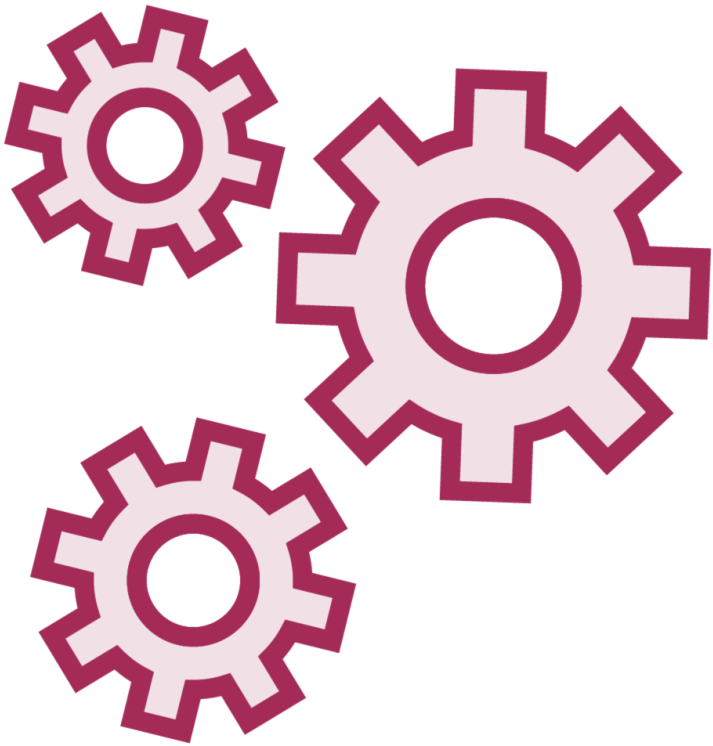
GitHub Secrets

```yaml
steps:
    - name: Hello world action
      with: # Set the secret as an input
        super_secret: ${{ secrets.SuperSecret }}
      env: # Or as an environment variable
        super_secret: ${{ secrets.SuperSecret }}
```

• Store sensitive information outside of a workflow

• Easy to retrieve with workflows

Other Tool Choices

Jenkins

Bamboo

CircleCI

Overview/ Summary

Azure Pipelines

GitHub Actions

< ~2% of total questions